Claims

1. Premix burner (1) comprising an annular air channel (3) for guidance of combustion air (4) along a flow direction and a fuel inlet (11)for feeding fuel (5) into said combustion air (4), wherein a profiling means (2) is located in said air channel (3) upstream of said fuel inlet (11) for profiling the mass stream of said combustion air (4) in a direction perpendicular to said flow direction, wherein according to said profiling, a fuel density downstream said fuel inlet (11) varies along every radial direction (R) through said annular air channel (3).

2. Burner (1) according to claim 1, wherein the profiling means (2) is a perforated, annular shaped metal plate, wherein every hole (13)of said plate (2) has a respective hole area, thereby forming a hole area density of said metal plate and wherein said hole area density varies in a radial direction (R).

3. Burner (1) according to claim 2, wherein the hole area density increases in an outward radial direction (R).

4. Burner (1) according to claim 1, wherein the profiling means (2) is a grid.

5. Burner (1) according to claim 1, wherein the profiling means (2) is a sieve.

6. Burner (1) according to claim 1, wherein the profiling is such that said mass stream of said combustion air (4) increases in an outward radial direction (R).

7. Burner (1) according to claim 1, wherein the annular air channel (3) encircles a central diffusion burner (16).

8. Gas turbine (110), comprising a burner (1) according to one of the preceding claims.

9. Process for burning fuel (5) in air (4), comprising the steps of
guiding air through an annular channel (3) of a premix burner (1);
profiling the mass stream of said air (4) in such a way that the mass stream varies along every radial direction (R) through said annular air channel (3);
feeding fuel (5) into said profiled air stream at a fuel inlet (11), thereby generating a fuel/air mixture with varying fuel density along every radial direction (R) through said annular air channel (3);
igniting and burning said fuel/air mixture.